

## **INTEGRATED WATER MANAGEMENT PLAN**

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**Approved by the Upper Niobrara White  
Natural Resources District Board of Directors: May 14, 2009**

**Approved by the Department of Natural Resources: May 14, 2009**

**INTEGRATED MANAGEMENT PLAN**  
**Jointly Developed by the**  
**UPPER NIOBRARA WHITE NATURAL RESOURCES DISTRICT**  
**and the**  
**DEPARTMENT OF NATURAL RESOURCES**

## **1. AUTHORITY**

This integrated management plan was prepared by the Board of Directors of the Upper Niobrara White Natural Resources District (District) and the Nebraska Department of Natural Resources (Department), in consultation with the Upper Niobrara White Citizen's Advisory Committee (CAC) and in accordance with Neb. Rev. Stat. §§ 46-715, 46-716, 46-717, and 46-720.

## **2. BACKGROUND**

In 1972, a law passed by the Nebraska Legislature became effective, which combined 154 special purpose entities into what are now 23 natural resources districts (NRDs). Unique to Nebraska, NRDs are local government entities, governed by an elected board of directors, with broad responsibilities to protect Nebraska's natural resources. NRD boundaries generally follow major river basins, enabling local districts to respond best to local needs. The District contains all or portions of the Hat Creek Basin, the White River Basin, the Niobrara River Basin, the Box Butte Creek Sub-basin, and the Snake Creek Sub-basin in Nebraska.

The natural resources districts' authorities focus on ground water management; the Department administers surface water rights and may issue ground water transfer permits. With the increasing demand on water resources, it is necessary to realize the importance and use of hydrologically connected ground and surface waters. Ground water and surface water have an intricate relationship, which can be difficult to manage.

In January 2003, realizing the need to protect its integrated water resources, the District requested the Department, in consultation with the District, study the hydrologically connected ground water and surface water in the District and determine whether a joint action plan should be developed for the integrated management of ground water and surface water resources. In accordance with that process, the Department made a preliminary determination in February 2003 that there was reason to believe that the use of hydrologically connected ground water and surface water resources in the District was contributing to, or in the reasonably foreseeable future is likely to contribute to, conflicts between ground water users and surface water appropriators.

With this preliminary determination, the District Board imposed a temporary suspension on the issuance of well permits for the entire District on March 20, 2003. The District appointed the CAC to assist with the revisions to the District's Ground Water Management Plan and the development of a Joint Action Plan. In the fall of 2003, the

District, CAC, and the Department began meeting to develop the Joint Action Plan. In addition, the District and CAC began meeting to revise the District's Ground Water Management Plan.

In July of 2004, LB 962 became effective, repealing the portions of the Ground Water Management and Protection Act pertaining to the joint action process of integrated management planning. Provisions in LB 962 allowed for NRDs working on joint action plans for the integrated management of hydrologically connected waters to transition into the new planning process without starting over. Under LB 962, an integrated management plan must be developed if the Department determines that a river basin, sub-basin or reach is fully appropriated. A river basin, sub-basin or reach is deemed fully appropriated if the Department determines that then-current uses of hydrologically connected surface water and ground water in the river basin, sub-basin or reach cause or will in the reasonably foreseeable future cause (a) the surface water supply to be insufficient to sustain over the long term the beneficial or useful purposes for which existing natural flow or storage appropriations were granted and the beneficial or useful purposes for which, at the time of approval, any existing instream appropriation was granted, (b) the streamflow to be insufficient to sustain over the long term the beneficial uses from wells constructed in aquifers dependent on recharge from the river or stream involved, or (c) reduction in the flow of a river or stream sufficient to cause noncompliance by Nebraska with an interstate compact or decree, other formal state contract or agreement, or applicable state or federal laws [Neb. Rev. Stat. § 46-713(3)].

On July 16, 2004, the Department preliminarily determined that the District was fully appropriated in its entirety. This determination implemented temporary stays on the issuance of water well permits and on the increase of ground water irrigated acres in the District, along with stays on the issuance of new surface water appropriations and on the increase of surface water irrigated acres. These stays replaced the temporary suspension the District had imposed as part of the joint action planning process, which was repealed by LB 962. Under provisions of the law, the Department was required to hold a hearing and make a final determination by November 14, 2004, on which river basins, sub-basins or reaches in the District were fully appropriated. The Department held public information meetings and public hearings in October 2004 and released its conclusions on October 14, 2004, in the form of a report entitled, "Report on Hydrologically Connected Groundwater and Surface Water in the Upper Niobrara White Natural Resources District."

The District held public information meetings and a public hearing to implement an additional rule for its Ground Water Management Area after concluding from the Department's report that not all of the District would be determined to be fully appropriated, and, thus, the state-issued stays would be lifted in a portion of the District. Consequently, the District implemented a district-wide stay on the issuance of water well construction permits, until the District's ground water management plan and the integrated management plan were finalized.

In accordance with the law, on November 3, 2004, the Department released its final determination that the Hat Creek Basin, the White River Basin, the portion of the Niobrara River Basin above the Mirage Flats Diversion Dam, the Box Butte Creek Sub-basin, and the Snake Creek Sub-basin were fully appropriated. At that time, the NRD had the option of lifting the temporary stays on the issuance of new water well construction permits and on the increase of ground water irrigated acres in the District until the integrated management plan was adopted. The NRD decided to continue both stays. The District and the Department had not finished the joint action plan prior to the implementation of LB 962; therefore, completion of the integrated management plan proceeded under the new law.

On October 17, 2007, the Department made a preliminary determination that a portion of the Lower Niobrara River Basin was fully appropriated. This preliminary determination included lands within the District, in Box Butte, Dawes, and Sheridan counties, which had not previously been determined to be fully appropriated in 2004. As a result of this preliminary determination, temporary stays on the issuance of water well construction permits and on additional ground water irrigated acres went into effect in this portion of the District, along with stays on the issuance of new surface water appropriations and on the increase of surface water irrigated acres. Since the District already had a moratorium on well construction permits in place district-wide, the effective additional restriction on District producers was the stay on increases in irrigated acres. On January 25, 2008, the Department made a final determination that the area preliminarily determined to be fully appropriated in Box Butte, Dawes, and Sheridan counties was fully appropriated. At that time, the NRD had the option of lifting the temporary stays on the issuance of new water well construction permits and on the increase of ground water irrigated acres in the District until the integrated management plan was adopted. The NRD decided to continue both stays.

On May 14, 2009 the District and the Department approved the first version of this IMP. In December 2010 the District and Department agreed to modify the IMP in an attempt to separate the rules and regulations from the rest of the plan in addition to other minor changes. This version of the IMP reflects those changes.

### **3. MAPS**

Map 1 indicates the fully appropriated area that the ground water controls of this integrated management plan (green and blue shaded areas) apply to within the boundaries of the District. The map also indicates by red boundaries the sub-area divisions within the District. The stratigraphic boundaries subject to this integrated management plan include all sediments from ground level downward through all aquifer units, with the exception of the portion of the Chadron Formation which has an aquifer exemption from the Nebraska Department of Environmental Quality.

Map 2 indicates the area subject to the surface water controls of this integrated management plan within the boundaries of the District.

#### 4. GOALS AND OBJECTIVES

The District understands the importance of ground water to the economy of northwestern Nebraska; with this in mind, the District has set a district-wide short-term goal of minimizing ground water depletions and a long-term goal of a sustained aquifer. Utilizing 1990 as a base year, changes in spring static water levels will be monitored yearly. If static water levels within a sub-area meet or exceed a trigger for entering a different phase of the Ground Water Management Plan, that sub-area will enter the new management phase directly. With a ground water management plan in place, the District has determined that, if ground water levels decline, steps will be put into place to reduce and ultimately prevent static water level declines. Ground water pumping, which is closely associated with surface water flows, requires monitoring to determine the effect of pumping on surface water flows in the fully appropriated portions of the District. If hydrologically connected ground water wells are found to be decreasing the flow in a stream, then additional controls may be implemented to minimize the effect on the stream.

The District has been divided into sub-areas based on the hydrogeologic and physical conditions of the District. Monitoring and management of integrated water resources will be conducted within sub-area boundaries, allowing for controls to be implemented as needed, not as a one-size-fits-all approach; additionally, since ground water and surface water are closely related, several sub-areas may be regulated with the same controls to achieve the goals set forth below.

Pursuant to Neb. Rev. Stat. § 46-715, an integrated management plan shall include the following: (a) clear goals and objectives with a purpose of sustaining a balance between water uses and water supplies so that the economic viability, social and environmental health, safety and welfare of the river basin, sub-basin or reach can be achieved and maintained for both the near term and long term; (b) a map clearly delineating the geographic area subject to the integrated management plan; (c) one or more of the ground water controls authorized for adoption by natural resources districts pursuant to section 46-739; (d) one or more of the surface water controls authorized for adoption by the department pursuant to section 46-716; and (e) a plan to gather and evaluate data, information and methodologies that could be used to implement sections 46-715 to 46-717, increase understanding of the surface water and hydrologically connected ground water system, and test the validity of the conclusions and information upon which the integrated management plan is based. The plan may also provide for utilization of any applicable incentive programs authorized by law. Nothing in the integrated management plan for a fully appropriated river basin, sub-basin or reach shall require a natural resources district to regulate ground water uses in place at the time of the department's preliminary determination that the river basin, sub-basin or reach is fully appropriated, but a natural resources district may voluntarily adopt such regulations. The applicable natural resources district may decide to include all water users within the district boundary in an integrated management plan.

The ground water and surface water controls proposed for adoption in the integrated management plan shall (a) be consistent with the goals and objectives of the plan, (b) be sufficient to ensure that the state will remain in compliance with applicable state and federal laws and with any applicable interstate water compact or decree or other formal state contract or agreement pertaining to surface water or ground water use or supplies, and (c) protect the ground water users whose water wells are dependent on recharge from the river or stream involved and the surface water appropriators on such river or stream from streamflow depletion caused by surface water uses and ground water uses begun after the date the river basin, sub-basin or reach was designated as overappropriated or was preliminarily determined to be fully appropriated in accordance with section 46-713.

To achieve the requirements of the integrated management plan, the following goals and objectives are adopted by the District and the Department:

**Goals:**

1. To manage surface and ground water supplies in the fully appropriated portion of the District to be in balance with uses, so that the existing domestic, agricultural, environmental, recreational, commercial, and industrial activities are preserved to maintain the economic viability, social and environmental health, safety, and welfare of the District for both the near term and long term.
2. To manage surface and ground water in an equitable manner.
3. To maintain Nebraska's compliance with the Wyoming-Nebraska Compact on Upper Niobrara River, as adopted on October 26, 1962, and ratified by Congress on August 4, 1969.

**Objectives:**

1. To ensure that the administration of surface water appropriations in the District is in full compliance with Nebraska law.
2. To ensure that ground water is managed in the District in full compliance with Nebraska law.
3. To prevent the expansion of new water uses in the District that would negatively affect/impact current surface water and groundwater users within the fully appropriated area of the District.
4. To the extent feasible, monitor the impacts of various factors that have the potential to affect the water supply, such as consumptive uses, vegetative growth, or conservation practices.
5. To monitor District streams, by sub-area, for declining surface water flows. If declines are attributed to ground water pumping, then additional controls may be

implemented to reduce the effect on surface water flows. If declines are attributed to below-average precipitation, then close monitoring will continue to record the effect of drought.

6. To take advantage of any incentive programs that may retire irrigated ground, which in turn will reduce total consumptive use and conflicts between surface and ground water users, in the fully appropriated area of the District.
7. To investigate, in cooperation with the State of Wyoming, the water uses that have occurred since 1969 in the compact area of Wyoming and Nebraska that may be reducing inflows into the Niobrara River. This possible reduction in inflows may be having an impact on surface and ground water supplies in Nebraska.
8. To utilize the best available information, data, science and methodologies for the purposes of integrated water management.

## **5. REGULATORY & NON-REGULATORY ACTION ITEMS**

### **A. Non-Regulatory Action Items to Achieve Goals & Objectives**

#### **1. Information and Education Programs**

The District and the Department will provide educational materials to the public concerning this integrated management plan and hydrologically connected ground water and surface water. Public meetings will be held throughout the District concerning these issues as the need arises.

#### **2. Water Banking**

(a) A ground water bank will be established by the District. This water bank will track reductions in and additions of consumptive use within the District. The bank will also allow the District to acquire irrigated acres for permanent retirement as offsets.

(b) The District and the Department will agree on the best available tools to use for calculating the amount of accretions to the stream that will be placed into the water bank from acquired water or surface water uses (i.e. the bankable volume of water). The calculations used to determine the accretions to be put into the water bank will consider the impact to streamflows through at least a fifty (50) year period, and will be consistent with the methods used to evaluate transfers as described in Section 5 subsection C.(c) of this IMP. These calculations will also establish the timing and location of streamflow changes, and any impacts to existing ground water or surface water users.

(c) The District will contact the Department prior to purchasing or acquiring surface water appropriations for deposit in the water bank. The Department will conduct a field investigation of the surface water appropriation and notify the District of the results of



that investigation within 90 days. The District will work collaboratively with the Department in performing the analysis to evaluate the bankable volume of water resulting from the retirement of the surface water appropriation. The District will follow the appropriate statutes and rules and regulations of the Department for approval if the surface water appropriation is to be transferred to another use.

(d) The District will obtain and maintain permanent easements, lease agreements or other agreements on all property from which surface water or ground water uses have been retired for purposes of the water bank.

(e) The District shall annually report all water banking deposits, withdrawals, and other activities according to the specifications described in Section 8 of this IMP.

(f) When carrying out any water banking activity, the District shall follow the procedures for any ground water regulatory action (e.g. transfers, certification, or municipal and non-municipal industrial accounting) applicable to such activity. When carrying out any surface water related water banking activity, the District shall follow the appropriate state statute and Department rules and regulations.

#### B. Ground Water Regulatory Actions (Controls) to Achieve Goals & Objectives

1. The authority for the ground water component of this Integrated Management Plan is Neb. Rev. Stat. §§ 46-715 and 46-739. The following ground water controls are implemented by the District in the Integrated Management Area within the fully appropriated area of the District, as shown in Map 1.

2. The District will periodically review the controls being implemented to carry out the goals and objectives of this IMP. If necessary and appropriate, the District may adjust, modify, and/or expand the existing controls and/or implement additional controls to carry out the goals and objectives of this IMP. Based on the annual review of the progress being made toward achieving the goals of this IMP, the District may amend or add to its rules and regulations. No controls may be removed, unless and until the District and the Department amend this IMP. The controls may not be modified in such a manner as to conflict with the goals and objectives of this IMP.

3. Within the fully appropriated area the District will implement the following controls as authorized by Neb. Rev. Stat. § 46-739:

##### (a) Moratorium

The District has implemented a moratorium on the issuance of water well construction permits and on new or expanded ground water uses. The District may grant a variance from the moratorium, following the District's Ground Water Management Area Rules and Regulations, if there is an offset for any new or expanded use, or if there will be no increase in consumptive use due to the new or expanded use. In granting a variance, the District will consider the timing, location, and amount of the depletion, and the



corresponding offset, in order to prevent adverse impacts on existing ground water or surface water users.

(b) Certification of Irrigation Uses

The District has certified all existing ground water irrigation uses. Any new, modified, or transferred irrigated uses will need to be certified by the district. The District will consider the timing, location, and amount of any depletion associated with any modification to certified irrigated acres, as well as any associated offset in order to prevent adverse impacts to existing ground water or surface water users.

(c) Transfers

(1) General Guidelines for Ground Water Transfers

(i) The purpose of a ground water transfer is to allow for the consumptive use of ground water to be changed either in location or purpose without causing an increase in depletions to the river or an impact to existing surface water or ground water users.

(ii) The District may permit, regulate, or take action on the following types of ground water transfers: (1) physical transfer of ground water off of the overlying land; (2) transfer of the type of use or addition of use; (3) transfer of certified irrigated acres; (4) physical transfer of ground water and transfer of certified irrigated acres between the District and an adjoining NRD; (5) municipal transfer permit (if the applicant does not have a municipal transfer permit from the Department); (6) industrial transfer permit (if the applicant does not have an industrial municipal transfer permit from the Department); and (7) transfers out of state.

(iii) A transfer permit from the District shall be required before any transfer as identified in (1) through (6) may be allowed. The specifics of the transfer permitting process, including the evaluation criteria and procedures, will be included in the District's Ground Water Management Area Rules and Regulations. The evaluation criteria for a transfer permit include, but are not limited to, the following: (1) whether the proposed transfer will cause an impact to existing ground water or surface water users; (2) whether the proposed transfer will cause an increase in depletions to the river; (3) whether the proposed transfer will result in an increase in consumptive use; (4) the amount, location and timing of any changes in depletions or accretions to the river due to the proposed transfer; (5) whether the proposed transfer is consistent with the purpose for which the Integrated Management Area was designated; and (6) whether the proposed transfer will protect the public interest and prevent detriment to the public welfare.

(iv) The District and the Department shall use an agreed upon methodology for calculating depletions and accretions when evaluating proposed transfers to ensure that the timing, location and amount of the depletions are offset. Any actions taken by the

District related to the approval of transfers through a permitting process will be documented and shared with the Department pursuant to Section 8.

(2) Guidelines for Types of Ground Water Transfers

(i) Physical transfer of ground water off of the overlying land – (1) permits will not be required for the physical transfer of ground water for domestic or range livestock uses.

(ii) Transfer of the type of use or addition of use – (1) the transfer cannot result in an increase in consumptive use unless an offset is provided, and (2) the water well registration must be changed to reflect the new or additional use.

(iii) Transfer of certified irrigated acres – (1) the transfer cannot result in an increase in consumptive use unless an offset is provided; (2) the certified acres being transferred must be decertified and the new acres must be certified; (3) the same amount of acres can be moved; if, however, the location the certified acres are moving to has a higher stream depletion factor than the original location of the certified acres, the number of acres that can be transferred will be decreased by an amount proportional to the increase in the stream depletion factor;

(iv) Transfers from Outside to Inside the District and from Inside to Outside the District – (1) a permit from the District is required; (2) the transfer must be in conformance with the rules and regulations of the NRD from which the transfer is coming from or going to; and (3) agreement between the District and the other NRD involved in the transfer that the use being retired in one district will remain retired for the duration of the transfer.

(v) Municipal Transfer Permits – (1) transfers without a municipal and rural domestic transfer permit from the Department will require a transfer permit from the District; (2) a water well construction permit shall not be issued unless and until the board has granted a variance to the moratorium on the issuance of water well construction permits and has approved the transfer permit.

(vi) Industrial Transfer Permits – (1) transfers without an industrial transfer permit from the Department will require a transfer permit from the District; (2) a water well construction permit shall not be issued unless and until the board has granted a variance to the moratorium on the issuance of water well construction permits and has approved the transfer permit.

(vii) Transfer Out of State – (1) The Department will consult with the District when considering applications filed to transfer ground water out of state, pursuant to Neb. Rev. Stat. § 46-613.01. The District will take action to approve or deny the transfer request based on the same criteria that the Department uses prior to issuing a transfer permit; and (2) a water well construction permit shall not be issued unless and until the board of the District has granted a variance to the moratorium on the issuance of water well construction permits and has approved the transfer permit.

4. Within the fully appropriated area, the District will be implementing the following regulatory action items through their rules and regulations, pursuant to Neb. Rev. Stat 47-740:

(a) Municipal Use and Accounting

(1) The District will calculate a baseline consumptive use for each municipality based on historic consumptive use data for an appropriate interval. Consumptive use will be determined from ground water pumping volumes and, where applicable, wastewater discharge volumes, and converted to a per capita volume. The baseline per capita volume, plus the annual population growth estimated by the Nebraska Department of Economic Development and/or U.S. Census Bureau will be used to determine annual increases and decreases in consumptive uses. These changes in consumptive use will be tracked annually for each municipality through a reporting system administered by the District.

(2) Once each five (5) years, and more often if requested by the Department or as determined by the District, the District will re-calculate the per capita consumptive use based upon similar, but updated, data described in section 4 (a)1 above, and make any necessary adjustments to their per capita offset requirements.

(3) Each year the municipality shall be responsible for reporting to the District any ground water use that exceeds the amount authorized by a permit that was issued pursuant to the Municipal and Rural Domestic Ground Water Transfers Permit act, and any new or expanded single commercial/industrial consumptive use if that new or expanded consumptive use is greater than twenty five (25) million gallons per year.

(4) Each year, the District and Department will evaluate the potential need to offset increases from the baseline consumptive use as estimated by population growth. This evaluation may consider the amount, timing, and location of the increased consumptive use as well as other considerations deemed appropriated by the District and the Department. In the event that the municipality's water use exceeds the amount of ground water authorized by a permit that was issued pursuant to the Municipal and Rural Domestic Ground Water Transfers Permit Act; or the increase is related to any new or expanded single commercial/industrial consumptive uses of more than twenty-five (25) million gallons per year, the District and Department will consult with the municipality or commercial/industrial user to evaluate the potential need for an appropriate offset.

(5) Any permanent reduction in consumptive use of water associated with municipal growth including governmental, industrial, and commercial growth (e.g., by taking irrigated acres out of production), between July 14, 2006, and January 1, 2026, shall accrue to the District's water bank to be used in whole or in part to offset increased municipal consumptive use within the District. Acres taken out of production must be decertified and transferred to the District's water bank.

(b) Large User Permits

(1) Any public water supplier, with the exception of municipalities, who desires to withdraw and/or consumptively use ground water shall, prior to: 1) changing the use of an existing ground water well or wells; 2) commencing construction of any new or replacement ground water well; or 3) modifying the existing infrastructure for the purpose of expanding the consumptive use of ground water, apply for and receive from the UNWNRD a large user permit to authorize such withdrawal and/or use of ground water.

(c) Non-Municipal Industrial Use and Accounting

(1) The District will calculate baseline consumptive use for each non-municipal commercial/ industrial user in the District based on historic consumptive use data for an appropriate interval. Consumptive use will be determined from ground water pumping volumes and, where applicable, wastewater discharge volumes. The baseline will be used to determine changes in consumptive use annually.

(2) These changes in consumptive use will be tracked for each non-municipal commercial/ industrial user annually through a reporting system administered by the District.

(3) If the new or expanded single commercial/industrial use is less than or equal to twenty-five (25) million gallons per year, the District and Department will evaluate the potential need to offset increases from the baseline consumptive use. This evaluation may consider the amount, timing, and location of the increased consumptive use as well as other considerations deemed appropriate by the District and the Department.

(4) If the new or expanded non-municipal commercial/industrial use exceeds twenty-five (25) million gallons per year and they do not have a transfer permit, the user will be responsible for offsetting all new or expanded consumptive uses. If the new or expanded non-municipal commercial/industrial use has a transfer permit, the user is responsible for offsetting all new or expanded uses above the amount granted in the industrial transfer permit.

(5) Any permanent reduction in consumptive use of water associated with a new non-municipal commercial or industrial use of less than twenty-five million gallons (e.g., by taking irrigated acres out of production), between July 14, 2006, and January 1, 2026, shall accrue to the District's water bank to be used in whole or in part to offset increased consumptive use within the District. Acres taken out of production must be decertified and transferred to the District's water bank.

(d) Variances

(1) Unless otherwise provided by law or these rules and regulations, the District Board or the Department may grant a variance from these rules and regulations upon good cause shown. Offsets may be required for new or expanded uses, and, if applicable, the offset must be identified in the variance request.

C. Surface Water Regulatory Actions (Controls)

1. The authority for the surface water component of this integrated management plan is Neb. Rev. Stat. §§ 46-715 and 46-716. The surface water controls that will be implemented by the Department are as follows:

a. Moratorium

i. The Department will continue the moratorium on the issuance of new surface water appropriations from the Niobrara River upstream of the head gate of the Mirage Flats Canal, made formal by Order of the Director on November 30, 1990.

ii. The Department will continue the moratorium on the issuance of new surface water appropriations from the Niobrara River downstream of the head gate of the Mirage Flats Canal to the border between the District and the Middle Niobrara Natural Resources District, made formal by an Order of the Director which became effective on July 6, 2007.

iii. The Department may grant a variance from the moratoriums, following the Department's rules and procedures.

b. The Department has investigated the appropriations in the portion of the Niobrara River between the Cherry County/Sheridan County border and the Mirage Flats Irrigation District and in the White River Basin and the Hat Creek Basin to determine up-to-date records of the number and location of acres irrigated with surface water appropriations and to cancel appropriations that were not being used. The Department will use these updated records to monitor surface water use and to recognize when unauthorized use is occurring. The Department will also be proactive in initiating subsequent investigations whenever information available to the Department indicates that water rights are not being used and for which no known sufficient cause for such non-use exists.

c. All proposed transfers of surface water rights shall be subject to the criteria for such transfers found in Neb. Rev. Stat. §§ 46-290 to 46-294.04 and related Department rules or the criteria found in Neb. Rev. Stat. §§ 46-2,120 to 46-2,130 and related Department rules.

- d. The Department will continue to administer surface water rights according to state law and monitor use of surface water to make sure that unauthorized irrigation is not occurring.
- e. At this time, the Department shall not require that surface water appropriators apply or utilize additional conservation measures or that they be subject to other new restrictions on surface water use. The Department reserves the right to request, in the future, that this IMP be modified to require any such additional measures. In the event that such a request is made, the Department shall “allow the affected surface water appropriators and surface water project sponsors a reasonable amount of time, not to exceed one hundred eighty (180) days, unless extended by the Department, to identify the conservation measures to be applied or utilized, to develop a schedule for such application and utilization, and to comment on any other proposed restrictions” [Neb. Rev. Stat. § 46-716(2)].
- f. Transfers of individual surface water appropriations off of land that is also served by ground water will not be permitted if such transfer will result in an increase in consumptive use and/or irrigated acres, unless the ground water certified irrigated acres are decertified with the District, an offset is provided for the new acres to be irrigated, or the ground water use is also transferred to the same land to which the surface water appropriation is being transferred.

## 6. INCENTIVE PROGRAMS

The UNWNRD and the DNR intend to establish and implement financial, incentive and qualified projects as described in Neb. Rev. Stat. §§ 2-3226.04, LB 862 (2010), Neb. Rev. Stat. §§ 2-3252 or other incentive programs to reduce beneficial consumptive use of water within the UNWNRD. These projects include, but are not limited to (1) acquisition by purchase or lease of surface water or ground water rights, including storage water rights with respect to a river or any of its tributaries, (2) acquisition by purchase or lease or administration and management, pursuant to mutual agreement, of canals and other works, including reservoirs, constructed for irrigation from a river or any of its tributaries, (3) vegetation management, including, but not limited to, the removal of invasive species in or near a river or any of its tributaries and (4) the augmentation of river flows.

As a condition for participation in an incentive program, water users, landowners or the UNWNRD may be required to enter into and perform such agreements or covenants concerning the use of land or water as are necessary to produce the benefits for which the incentive program is established. Such incentive programs may include, but shall not be limited to, any program authorized by state law and/or federal programs operated by the United State Department of Agriculture. As a condition of participation in an incentive program, water users or landowners may be required to enter into and perform such agreements or covenants concerning the use of land or water as are necessary to produce the benefits for which the incentive program is established. Such incentive programs

may include any program authorized by state law and/or federal programs, such as the Environmental Quality Incentives Program (EQIP) operated by the U.S. Department of Agriculture.

## **7. MONITORING PROGRAM**

The objective of the monitoring program is to gather and evaluate data, information, and methodologies that could be used to increase understanding of the surface water and hydrologically connected ground water system and to test the validity of the conclusions and information upon which the integrated management plan is based.

This monitoring program is designed to gather and evaluate data to measure the success of the objectives of this plan. These objectives are restated below, and the associated monitoring activities are summarized following each objective.

1. To ensure that the administration of surface water appropriations in the District is in full compliance with Nebraska law.

This objective will be achieved by the Department continuing its statutory obligations to administer for surface water appropriations as needed and maintain accurate records of beneficial use of appropriations. The Department will continue to monitor surface water levels in the Integrated Management Area.

2. To ensure that ground water is managed in the District in full compliance with Nebraska law.

This objective will be achieved by the District continuing its statutory obligations to manage ground water for beneficial use. The District will continue to monitor ground water levels under the process outlined in the District's Ground Water Management Plan.

3. To prevent the expansion of new water uses in the District that would negatively affect/impact current surface water and groundwater users within the fully appropriated area of the District.

This objective will be achieved by completing an appropriate analysis and tracking, as agreed upon by the District and the Department, pursuant to their respective rules and procedures, to determine the potential effects or potential necessary offsets of any new/proposed consumptive use. Additionally, a summary of all new uses and increases, above the baseline, in municipal and industrial consumptive uses shall be prepared by the Department and the District and shared at an annual meeting.

4. To monitor the impacts of various factors that have the potential to effect the water supply, such as consumptive uses, vegetative growth or conservation practices.



The District and Department, in cooperation with other state and federal agencies, will study and explore methods to manage the impacts of vegetative growth and conservation practices that may affect the local/regional water supply.

5. To monitor District streams, by sub-area, for declining surface water flows. If declines are attributed to ground water pumping, then controls will be implemented to reduce the effect on surface water flows. If declines are attributed to below-average precipitation, then close monitoring will continue to record the effect of drought.

This objective will be monitored through the evaluation of streamflow data and expansion of the Box Butte ground water model. Streamflow data will be used in conjunction with various analytical techniques to determine the portion of streamflow declines that can be attributed to climatic variations and the portion of declines that can be attributed to increased consumptive use of hydrologically connected water.

The Department will continue to work with the District on the development, refinement, and application of modeling tools. Inputs to models will continue to be refined as more information becomes available. Flowmeter data collected by the District will be utilized to assess current and potential future streamflow depletions with a specific focus on the Niobrara River above Box Butte Reservoir. Model scenarios may be conducted to determine the effects of ground water pumping on streamflow and investigate potential management scenarios. The District and the Department will evaluate these scenarios and any other pertinent data and make a decision, on an annual basis, as to whether further action should be taken in this area.

6. To take advantage of any incentive programs that may retire irrigated ground, which in turn will reduce total consumptive use and conflicts between surface and ground water users, in the fully appropriated area of the District.

This objective will be achieved through joint efforts by the District and Department to identify available funding programs that seek to reduce overall consumptive use of ground water in the District.

7. To investigate, in cooperation with the State of Wyoming, the water uses that have occurred since 1969 in the compact area of Wyoming and Nebraska that may be reducing inflows into the Niobrara River. This possible reduction in inflows may be having an impact on surface and ground water supplies in Nebraska.

The Department is conducting annual Compact meetings with the State of Wyoming. The Department will involve the District in the evaluation of ongoing studies related to ground water underflow at the state line and the future potential expansion of such studies. Additionally, the Department field office in Bridgeport will take periodic measurements of streamflow in non-gaged streams within the District.

8. To utilize the best available information, data, science and methodologies for the purposes of integrated water management.

The District and the Department will achieve this objective by utilizing the best available science to address integrated water management concerns, such as water supply or stream depletions/accretions, in accordance with Neb. Rev. Stat. §§ 46-715(3) and 46-717. This will be achieved through utilizing studies, hydrologic tools, economic tools, and development of projects, such as the Niobrara River Basin Study.

## **8. REPORTING**

The Department shall annually notify the District of any order of cancellation issued pursuant to Neb. Rev. Stat. § 46-229.04(5) or of any assignment of the right to use that portion of an appropriation which was relinquished to other land within an irrigation district pursuant to Neb. Rev. Stat. § 46-229.04(5).

The Department field office in Bridgeport will make available to the District, records of surface water diversions collected by the Department upstream of Box Butte Reservoir.

The Department field office in Bridgeport will make available to the District any measurements of streamflow taken in non-gaged streams within the District.

The District and the Department will annually report variances granted by each agency. The reports will include information on the nature of the variance request, the facts offered as justification for the variance to be granted, and the reasons for the action taken on the variance request.

The District will make available to the Department an annual report on changes in certified acres (e.g., transfers, decertification, or new certification). Information considered and actions taken on acres changes will be included.

## **9. INFORMATION CONSIDERED**

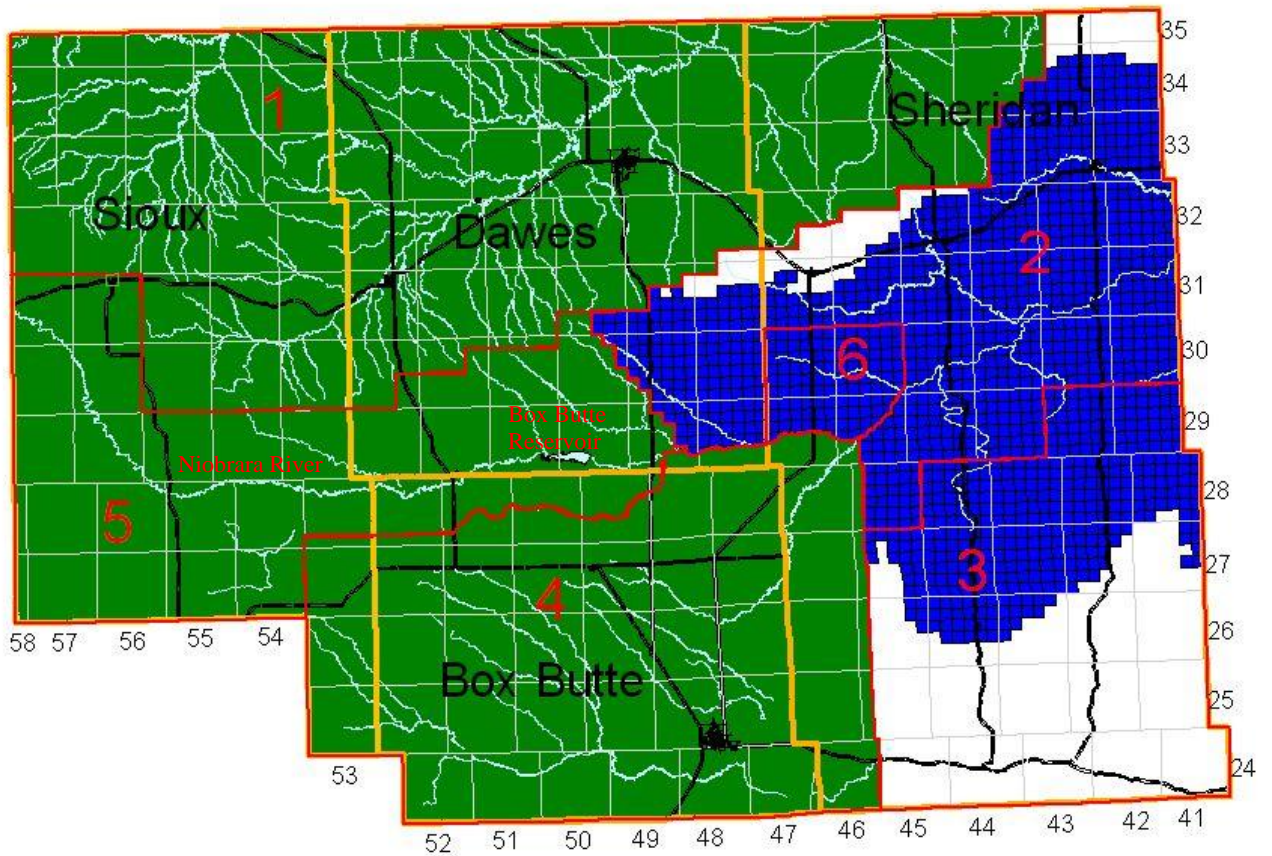
Information used in the preparation of this integrated management plan and to be used in the implementation of the plan can be found in (1) the Order of Final Determination of River Basins, Subbasins, or Reaches as Fully Appropriated, and Describing Hydrologically Connected Geographic Area in the Matter of the Hat Creek Basin, the White River Basin, the Portion of the Niobrara River Basin Upstream of the Mirage Flats Diversion Dam, the Box Butte Creek Subbasin and the Snake Creek Subbasin; (2) the Order of Final Determination that a Portion of the Lower Niobrara River Basin is Fully Appropriated, that the Stays on New Surface Water Uses and on Increases in the Number of Surface Water Irrigated Acres Shall Continue, and Designating the Geographic Area within which the Surface Water and Ground Water are Hydrologically Connected; (3) the Report on Hydrologically Connected Groundwater and Surface Water in the Upper

Niobrara White Natural Resources District; (4) the Upper Niobrara White NRD Ground Water Management Plan; and (5) additional data on file with the District and the Department.

#### **10. MODIFICATIONS TO THE INTEGRATED MANAGEMENT PLAN**

Progress toward achieving the goals and objectives of the integrated management will be reviewed annually, or more frequently as necessary, by the District and the Department to determine if amendments need to be made to the plan. Modifications to this integrated management plan will require an agreement by both the District and the Department as to the proposed changes. After the proposed changes have been agreed to, a joint hearing on those changes will be required. Following the joint hearing, the District and the Department will adopt by order the amendments to the plan.

**Map 1.** Dark Green Shaded Area Designated as Fully Appropriated November 3, 2004  
 Blue Shaded Area Designated as Fully Appropriated January 25, 2008  
 Red Lines Delineate Sub-area Management Boundaries



Map 2. Area subject to surface water controls. The red shaded region represents the area, within the UNWNRD, subject to surface water controls under this IMP.

